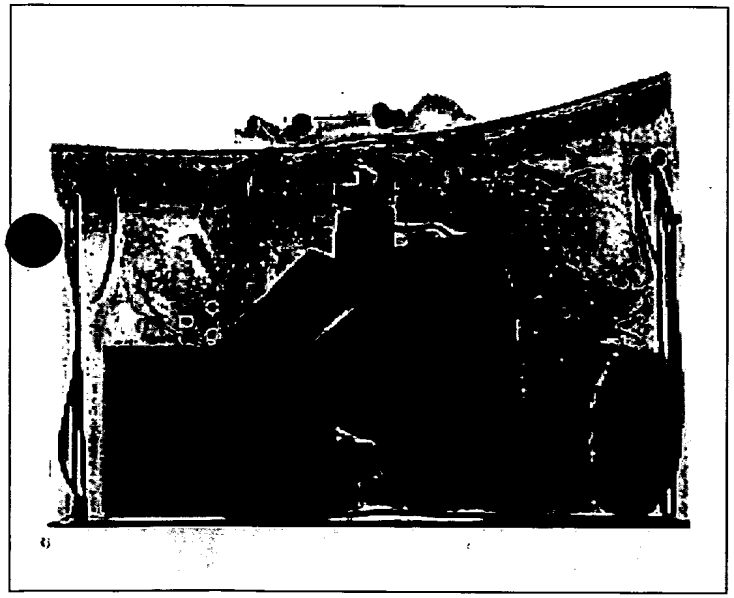
EXPLOSIVES

DRUGS

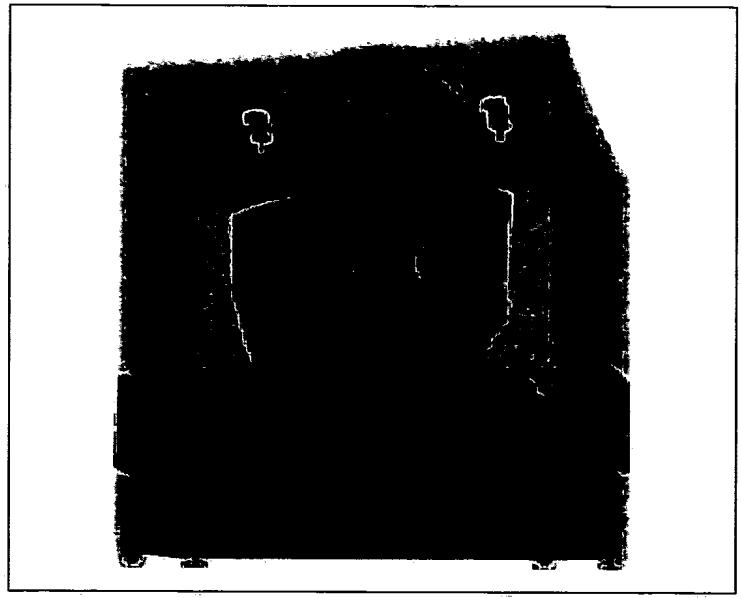
CURRENCY

VIVID COLOR WHERE IT MATTERS

SEMTEX PLASTIC EXPLOSIVE



HEROIN & COCAINE



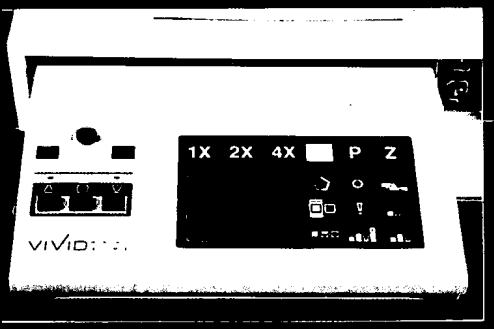
CURRENCY

UNSURPASSED DETECTION

A proprietary dual-energy x-ray technique originally developed for medical diagnostic systems has been extended by Vivid for the detection of contraband and explosives. The effectiveness of the Vivid System is a result of combining the capabilities of an expert system with the features of an advanced x-ray inspection system. While conventional x-ray inspection systems are totally dependent on the ability of the operator to interpret the image, the Vivid System analyzes the contents of baggage, automatically identifies targeted materials as alarms and highlights them in red in the image. The separate automated and operator analyses are complementary and synergistic. Detection and clearing rates achieved in operational and laboratory testing justify immediate implementation of the Vivid System.

VIVID

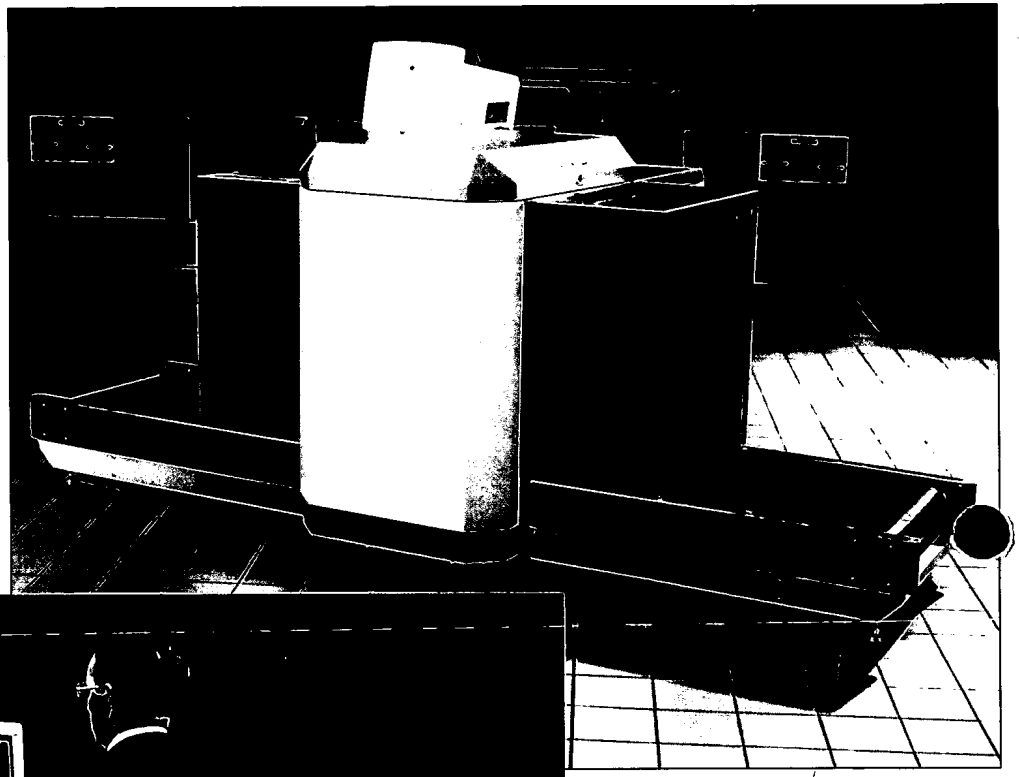
RAPID DETECTION SYSTEM

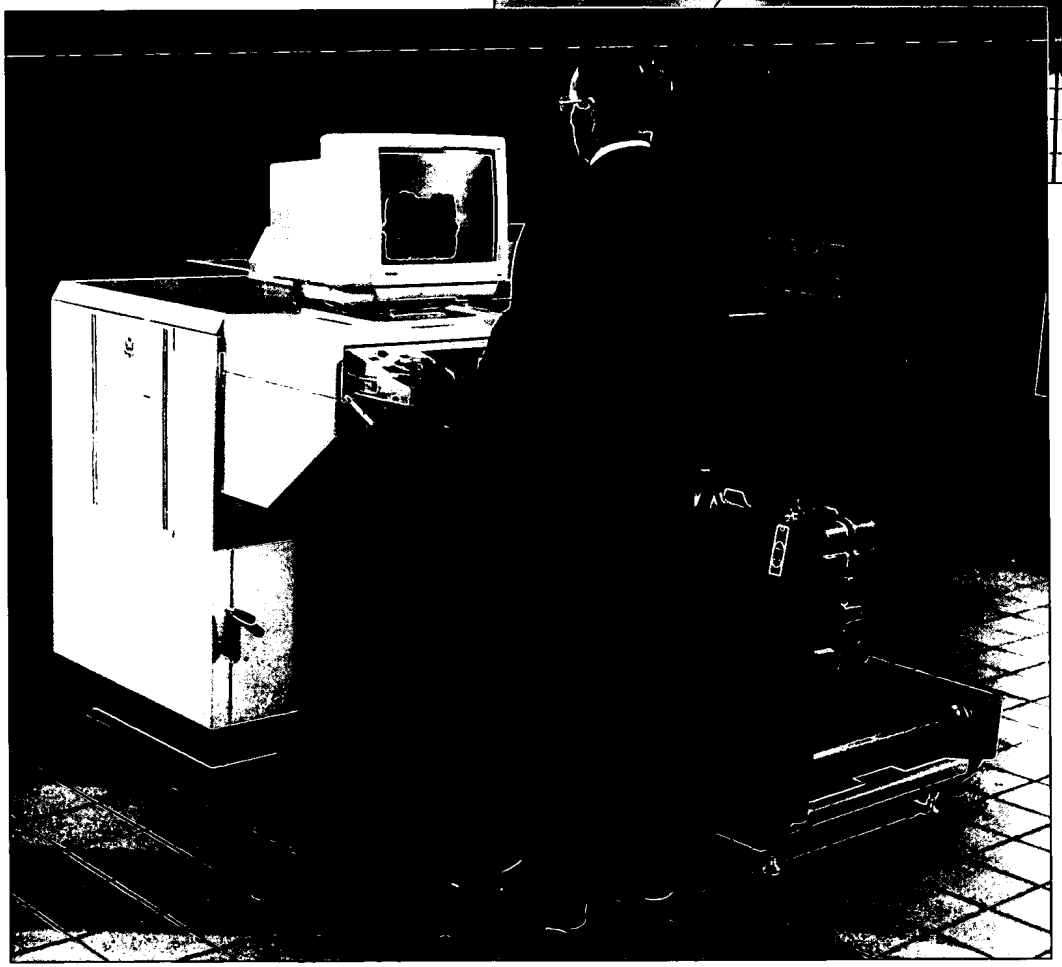


Operator controls are character based eliminating text except where required by safety codes or regulations. All features are controlled by individual icons that are easily related to specific features. The operation of the system is easily customized via a supervisor level of access requiring a key and/or access code.

VIVID
RAPID DETECTION SYSTEM
VIVID TECHNOLOGIES INC.
590 LINCOLN STREET
WALTHAM, MASSACHUSETTS 02154 USA
TEL: (617) 890-8188 FAX: (617) 890-8397

The system is similar to conventional x-ray inspection systems in configuration, operation and safety, meeting all safety and performance criteria for cabinet x-ray inspection systems and enhanced x-ray systems (EXR). Installation of the system is therefore possible under existing regulations at any site suitable for conventional x-ray inspection systems.





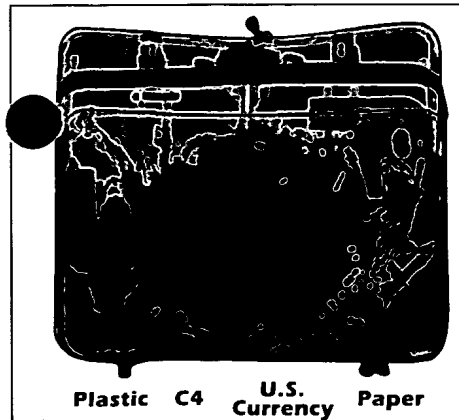
OPERATIONALLY COMPATIBLE

The operator console is easily adjusted to accommodate operators of various heights while standing or sitting. The console may also be detached and located remotely from the system.

AUTOMATED IDENTIFICATION

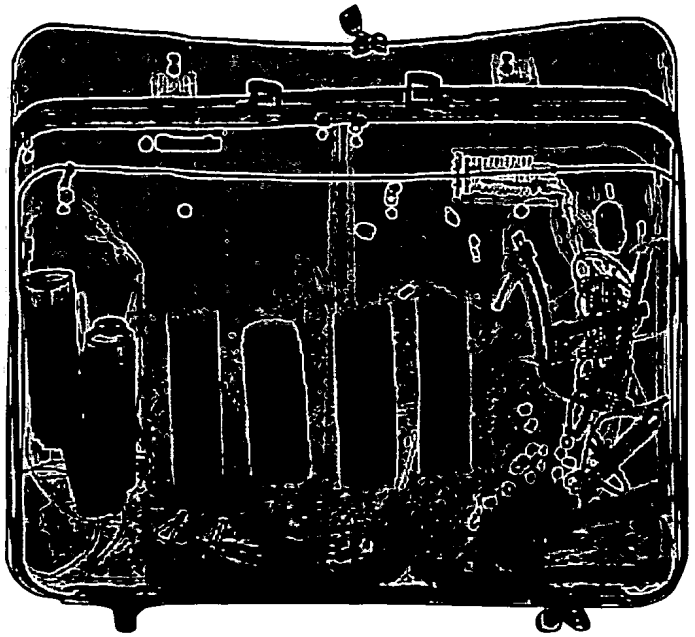
NEED FOR BETTER DISCRIMINATION

Enhanced x-ray inspection systems, including dual-energy and backscatter, are used to inspect baggage for the presence of explosives, drugs and currency based on their purported capability to identify organic materials. These systems display common organic materials and target materials in the same organic range without differentiation. Unfortunately, organic items made of cloth, paper, plastic and food dominate the contents of checked baggage. The effectiveness of these systems is severely limited by the lack of discrimination within the organic range required to correctly identify targeted materials while rejecting innocuous items.

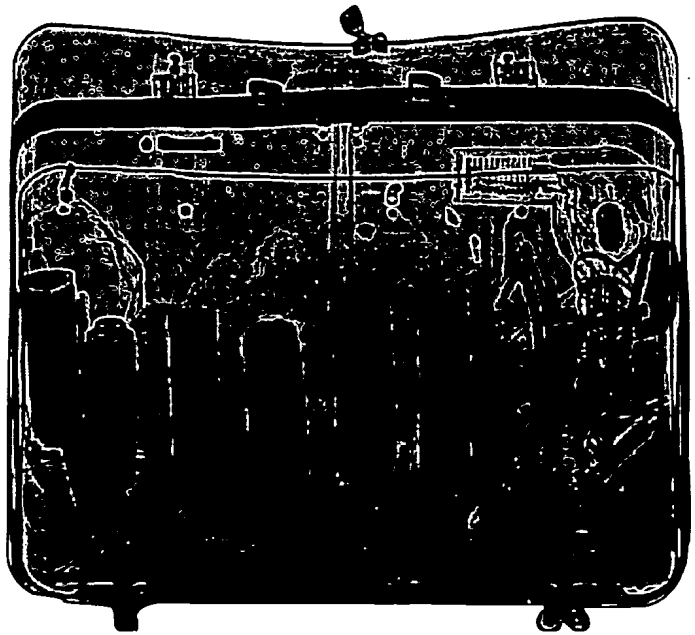


Enhanced x-ray systems categorize items into organic (brown), inorganic (green) and metallic (purple) categories. Note that all four objects in the test bag are presented as "organic".

EXPLOSIVES, DRUGS AND CURRENCY



Explosives Detection Mode
The Vivid System correctly identifies the C4 explosive.



Contraband Detection Mode
The Vivid System correctly identifies the U.S. currency, demonstrating unsurpassed discrimination within the organic group.

The detection of explosive and contraband material in checked baggage is a daunting task. Conventional x-ray inspection systems and other recently developed explosives detection systems (EDS) are clearly less effective than required. The Vivid Rapid Detection System offers effective detection capability in a configuration that is compatible with operational environments.

The Vivid System has overcome the limitations of enhanced x-ray systems by specifically identifying explosives, drugs and U.S. currency, even when concealed in highly cluttered environments or completely shielded by other items. Threat objects are presented in red as part of a single high resolution image. This single display greatly simplifies the task of identifying target materials and clearing innocuous items by limiting the operator's interest to targeted objects.

VIVID
RAPID DETECTION SYSTEM

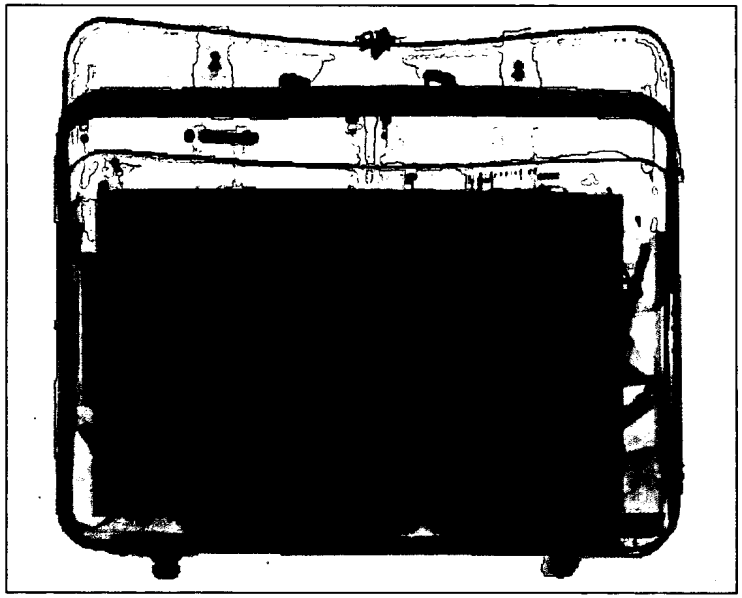
OVERCOMING BARRIERS OF DETECTION

Enhanced x-ray systems also lack the ability to identify organic items when located in cluttered environments or behind other items. For example, an organic item can be incorrectly identified by conventional dual-energy systems as inorganic or metallic when located behind a metallic item. Backscatter information from organic items can be blocked by metal, completely eliminating the organic item in the backscatter image.

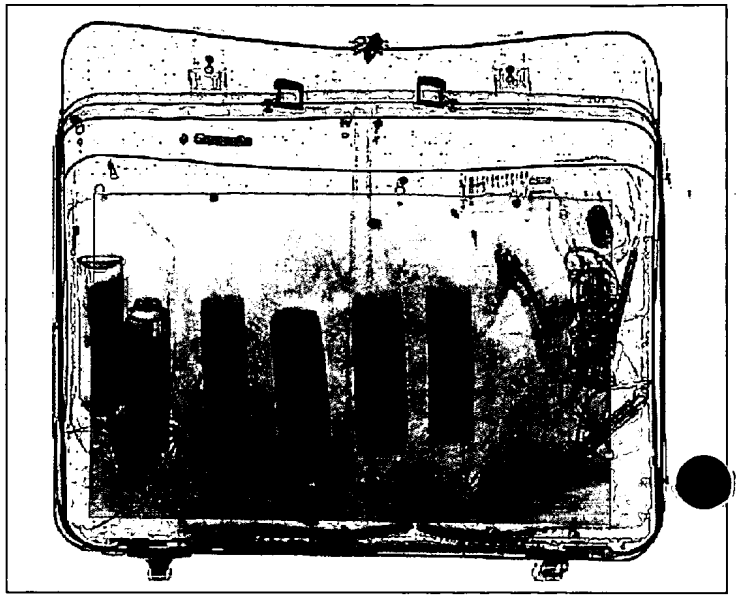
VIVID'S UNIQUE IMAGE ANALYSIS MODES

Detection and clearing rates of the Vivid System are increased as a result of the unique image analysis modes and exceptional image quality available to the operator.

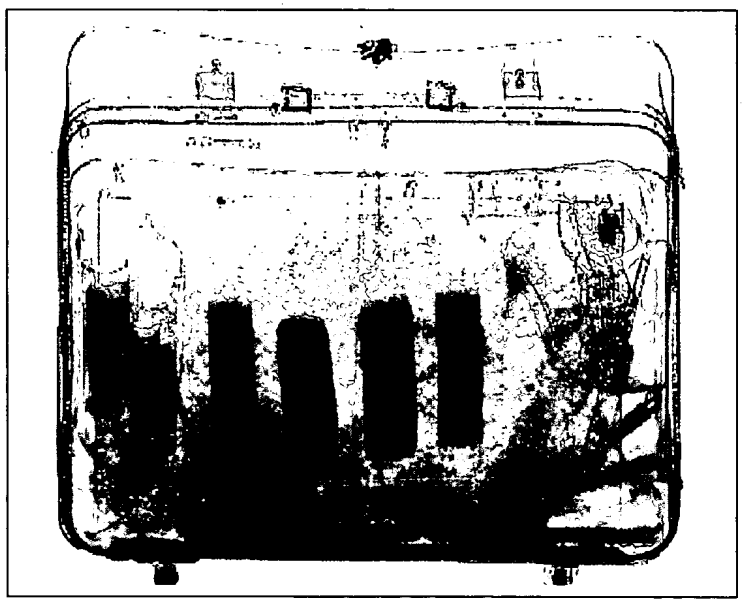
VIVID
RAPID DETECTION SYSTEM



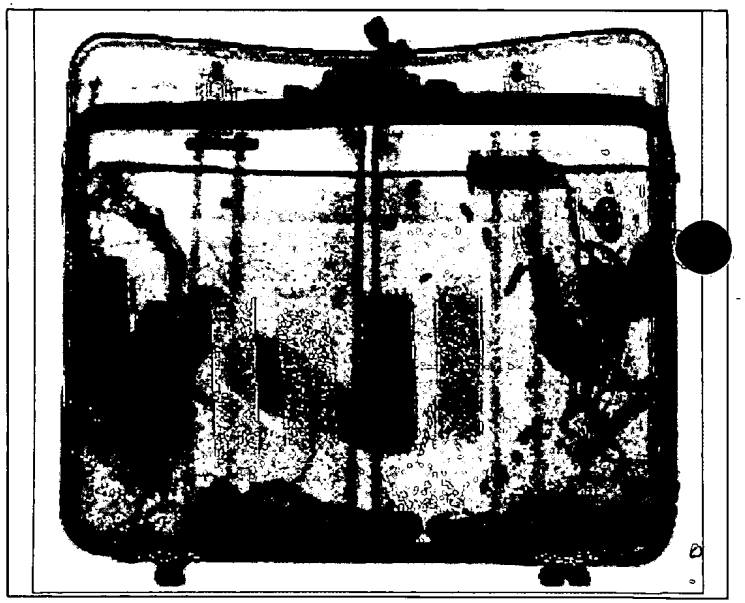
A sheet of steel is added to the test bag. The enhanced x-ray image incorrectly presents the organic items as inorganic and/or metallic.



The Vivid System specifically identifies the C4 and correctly displays the other organic items through the steel.



Vivid's Z-Image emphasizes items similar to the target materials. The steel sheet and clutter have virtually been removed from the image leaving a clear indication of the size and shape of each of the four objects.



Vivid's P-Image emphasizes materials dissimilar to the target material highlighting components of functional explosive devices such as the detonator, wires, power source and electronics.